

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method of using a resonator device for diagnostic investigation of a sample comprising a fluid from a biological organism, the method comprising the steps of:
 - accommodating the sample in the resonator ~~a measuring~~ device,
 - measuring quantitatively at least one macroscopic physical property of the ~~the~~ ^{[[a]]} sample, ~~wherein said at least one macroscopic physical property is measured by interaction of said sample with sound waves generated by the resonator device,~~ the at least one macroscopic physical property being selected from the group consisting of resonance frequency of sound waves, sound wave-length, sound velocity, viscosity, compressibility, mass density, shear wave parameter, acoustic impedance, and refractive index of sound waves,
 - correlating said at least one measured macroscopic physical property with reference data which characterize at least one condition of said sample,
 - determining at least one diagnostic characteristic of said sample based on a correlation between said at least one macroscopic physical property and said reference data, and
 - displaying the at least one diagnostic characteristic on a display.
2. (Canceled)
3. (Previously presented) The method of claim 1, wherein said determining step comprises measuring said at least one macroscopic physical property with a systematic and statistical error lower than 0.1%.
4. (Previously presented) The method of claim 1, wherein said determining step comprises measuring at least two macroscopic physical properties, said at least two

macroscopic physical properties being measured at different temperatures and/or pressures of said sample.

5. (Previously presented) The method of claim 1, wherein said determining step comprises measuring at least one relative macroscopic physical property of said sample, said at least one relative macroscopic physical property being measured as a difference or quotient of a first measured macroscopic physical property obtained with said sample and a second measured macroscopic physical property obtained with a reference sample.

6. (Previously presented) The method of claim 5, wherein said determining step comprises measuring at least two relative macroscopic physical properties, said at least two relative macroscopic physical properties being measured at different temperatures and pressures of said sample and said reference sample, respectively.

7. (Previously presented) The method of claim 1, wherein said determining step comprises a step of comparing said at least one macroscopic physical property, a corresponding relative macroscopic physical property, or a curve shape of macroscopic physical properties or relative macroscopic physical properties with at least one threshold reference macroscopic physical property or reference curve shape for obtaining said at least one diagnostic characteristic.

8. (Previously presented) The method of claim 1, wherein said step of determining said at least one diagnostic characteristic of a sample comprises a detection of at least one biomolecule in said sample.

9. (Previously presented) The method of claim 8, wherein said detection comprises a step of determining a presence of at least one protein, lipid, or polysaccharide in said sample.

10. (Previously presented) The method of claim 1, wherein said step of determining said at least one diagnostic characteristic comprises detecting a disease of said biological organism.

11. (Previously presented) The method of claim 10, wherein said detecting step comprises a step of detecting at least one disease comprising a neurodegenerative disease producing characteristic biomolecules in said sample from a biological organism.

12. (Previously presented) The method of claim 1, further comprising a step of preparing said sample before said determining step, said preparing step comprising at least one of an addition of an additive to said sample, a purification of said sample, or a separation of at least one component from said sample.

13. (Currently amended) A method of using a resonator device for diagnostic investigation of a CSF liquor sample from a human being or an animal, the method comprising the steps of:

measuring at least one sound velocity value through said sample at, at least one temperature or pressure, of sound waves generated by the resonator device, and

evaluating said at least one value of sound velocity, a corresponding relative value, or a curve shape of values or relative values and detecting at least one predetermined disease producing biomolecule in the sample to obtain diagnostic information from the sample, and displaying the diagnostic information on a display.

14. (Previously presented) The method of claim 13, further comprising the step of preparing said sample, said preparing comprising separation of albumin and immunoglobulins, before said measuring step.

15. (Withdrawn) A diagnostic device for investigating a sample of a biological organism, said device comprising:

a measuring device for measuring at least one macroscopic physical property of said sample, wherein said at least one macroscopic physical property characterizes an interaction of said sample with sound waves, and

an evaluating device for evaluating said at least one macroscopic physical property and for correlating said at least one physical property with reference data, which characterize at least one condition of said sample of said organism, for obtaining ~~at least one~~ diagnostic information.

16. (Withdrawn) The diagnostic device of claim 15, wherein said measuring device comprises a sound resonator cell and a sound frequency detention circuit.

17. (Withdrawn) The diagnostic device of claim 15, wherein said measuring device comprises a temperature or pressure control device.

18. (Withdrawn) The diagnostic device of claim 15, wherein said evaluating device comprises a calculating circuit containing a comparison or a correlation circuit.